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# Texts and Reading in Virtual Environments: History and Prospects

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# Texts and Reading in Virtual Environments: History and Prospects

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# Dedication

To my wife Ryan and my son Auggie, with love.

# Abstract

## Texts and Reading in Virtual Environments: History and Prospects

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This thesis examines the activity of pleasure reading as conducted within three kinds of virtual environments: role-playing and adventure video games, Massively Multiplayer Online Games (MMOGs) such as World of Warcraft, and graphical online social worlds such as Second Life. I ask how and to what extent different types of virtual environments are able to provide immersive reading experiences. This analysis relies upon the concepts of telic (purpose-driven) and paratelic (pleasure-driven) modes of reading, and I examine how virtual environments provide affordances for one or the other mode. How they do so usually has to do with how their situate reading materials in relation to the environment's diegetic world, as well as whether the diegetic world is coherent and bounded. I conclude that while paratelic reading is encouraged in all virtual environments, role-playing and adventure video games are conducive to partially telic reading experiences, with players reading in order to better understand the diegetic world in which they act. MMOGs feature largely immutable diegetic worlds lacking normal relations of causality, but they still manage to some degree to encourage telic reading by circumscribing and enriching the world with lore. Virtual social worlds are generally unable to provide this sort of telic reading experience due to their lack of coherent diegetic worlds, and their effectiveness for paratelic reading is currently hampered by unwieldy interfaces and lack of innovation in the format of virtual books. Although MMOGs and social virtual worlds both feature synchronous collaboration between players with the potential for emergent narratives, neither has been able to leverage this advantage for the creation of immersive reading experiences. Finally, all three forms of virtual environment have inspired innovative user-created narratives and interfaces, but they have done so outside the contexts of their diegetic game worlds, in the sphere of participant culture.

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# Chapter 1: Introduction

The past decade has seen the explosion of popularity of so-called Massively Multiplayer Online Games (MMOGs), a form which has succeeded in transcending the "hardcore gamer" demographic and serving as a platform for millions of people to interact with each other. Such games are also denoted by the less technical and more evocative name of *virtual worlds*, a term popular in the academic literature: indeed, they do constitute worlds (or sets of related worlds, as we will see), in which players can set up social, economic, and cultural institutions that need not have counterparts in physical reality. Here we will speak primarily in terms of *diegetic* worlds, settings constructed by means of fictional and spatial narratives. The social aspects of these games are especially central to what makes them unique, but I would like to explore a slightly different field of inquiry: how do individuals go about conducting everyday life activities within virtual environments?

Extensive research in the social sciences has appeared addressing virtual worlds, especially regarding the subjects of identity construction and institution building. Legal research on intellectual property and criminal behavior in virtual worlds is also becoming a particularly rich field, spurred on by the occurrence of court cases dealing with virtual rights and property. However, the life of the individual within these social environments is a topic that demands more attention. By taking a standpoint informed by everyday life theory, especially the thought of the French philosopher Michel de Certeau (1984), I hope

to illuminate the manner in which everyday life activities can take place within virtual worlds. Use of computers and the Internet are two everyday life activities that continue to gain prominence within the daily cycles of individuals around the world (Lally, 2002; Bakardjieva, 2005), and reading in virtual environments represents a nesting of such processes. Do everyday life activities in virtual settings differ from their real-word equivalents, and is there any way in which they shed light on the latter? In this study, I examine the potential for immersive reading experiences in different types of virtual environments; this entails looking at textual artifacts and how they relate to the diegetic worlds that contain them.

In addition to academic literature and journalistic works, I rely on videogames and virtual worlds as primary sources. This involves playing games and participating in virtual worlds; for games that appeared on older consoles, I have had recourse to emulator software that allows me to play on my computer, along with videos and walkthroughs posted online. It is difficult now to visit defunct virtual worlds or even to glimpse a snapshot of how currently operational worlds appeared years ago. There exist archival efforts to record important events occurring in virtual worlds and to preserve user-created content in virtual environments (Winget, 2011; McDonough et al., 2010), but much information is haphazardly scattered across the Web rather than documented in any systematic fashion.

Regarding terminology, I use terms that overlap significantly but are not interchangeable. The term *virtual world* is useful as a catch-all designation, but it risks obscuring crucial differences between forms of computer-mediated play and social

interaction.[1] At the same time, it excludes non-social games that are closely related to virtual worlds and can profitably be studied alongside them. I therefore employ the broader term *virtual environment* to designate any software program that allows the user to navigate an invented world and advance one or multiple narratives via a representation of the user – in the term popularized by Neal Stephenson's novel *Snow Crash* (1993), an *avatar*. This would bring single-player graphical role-playing games into the fold; text-based games, while historically relevant to the development of their graphical successors, do not feature the same sense of *presence* and thus will not be considered *virtual environments*. When I use the term *virtual worlds*, I refer to a subset of *virtual environments* that includes persistent multi-user worlds but not single-player video games.[2]

The major division within the category of *virtual worlds* (which excludes traditional video games) is that between games (MMOGs) and non-games. The latter includes such massive enterprises as Second Life and the Entropia Universe, but it also encompasses a variety of less elaborate social platforms used for chatting and playing

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[1] Savin-Baden et al. (2010) utilize the term "immersive virtual worlds" or IFVs; this is slightly clearer, but it does not obviously change the set of objects denoted. I have therefore chosen to avoid what I regard as an awkward bit of terminology. Castronova (2005) uses the more appealing term "synthetic worlds," which avoids allying them too closely with the "virtual reality" model popular in the early 1990s. I have opted to define this connection instead of adopting a term that has not entered into common use. Strangely, Castronova himself favors the term "virtual worlds" in the body of his book.

[2] Although it is by now a common refrain in the academic literature on this area, I should clarify that by referring to digitally constructed environments as "virtual," I am not advancing an ontological claim for the physical world as "real." As both Baudrillard (1994) and Boellstorff (2008) point out in their different ways, it is instructive to view the real world as likewise "virtual."

competitive mini-games, like IMVU and SmallWorlds. I find the term *social virtual worlds* to be convenient for describing this subcategory of *virtual worlds* that do not constitute games in themselves. It should be noted that *social virtual worlds* often offer the ability to play games embedded within the world; they allow for everyday life activities without framing said activities within a context of encouraged game advancement. In the influential language of Johan Huizinga (1966), these worlds are not circumscribed within a "magic circle" that separates game rules from real-world practices. Because users' motivations and the purpose of the worlds tend to be so different from MMOGs, we may expect to see contrasting models of reading and everyday life activities in general.

Part of the terminological confusion that emerges when discussing any sort of sort of digitally created space is the frequent use of the adjective "virtual" as denoting several related but distinct concepts. When virtual reality became a popular phrase in the early 1990s (Rheingold, 1992), what was "virtual" about the experience was embodiment. Users employed a range of hardware devices that provided visual, auditory, and often haptic feedback creating the sensation of inhabiting a digital body. Later, this type of interface was eclipsed in popularity by the MMOGs and social spaces that what I been collectively referring to as virtual worlds. What is virtual about these worlds is primarily – but not exclusively – sociality: societies can coalesce inside them and develop complex features like economies and new cultural formations. While both of these forms of virtuality are present in the environments that I examine, I am primarily concerned with narrative unity as the aspect that is virtualized. Virtual environments are capable of

geographically rendering a space in which all actions and narratives follow the same basic set of rules and underlying principles. Each virtual environment can create one, or more than one, *diegetic world*.

*Diegesis* is a concept deriving from ancient Greek literary theory: Plato (1974) opposes it to *mimesis* as a method for conveying a narrative. The former denotes description or straightforward narration, while the latter means representation or imitation. Gerard Genette (1980) discusses the different diegetic levels present in literature: the *extradiegetic* occurs outside the story, on the level of the author and reader, while the *diegetic* is what is experienced by characters inside the story. By empathizing with the characters, the reader descends into the diegetic level. When one discrete narrative exists inside another, such as *Hamlet*'s play within the play or the framing narratives of 19th-century English novels, the embedded narrative is said to take place at the *metadiegetic* or *hypodiegetic* level. The textual artifacts available in virtual environments open up such a hypodiegetic space when they portray a world that is fictional or embedded in relation to the primary diegetic world. In print fiction, diegetic worlds may be confined to one text or shared by many texts and many authors, like the Star Wars Expanded Universe or H.P. Lovecraft's Cthulhu Mythos.[3] The coherence of diegetic worlds – that is, the consistency with which laws of physics operate and thematic

[3] The diegetic world of a video game or MMOG can be extended by outside sources such as tie-in literature, e.g. the novels associated with *Halo* or *World of Warcraft*. For analysis of a number of diegetic worlds ranging from literary fiction to digital environments, see Harrigan and Wardrip-Fruin (2009).

elements appear, along with their sense of being delineated by clear boundaries – will be seen to have an impact on the potential for immersive reading experiences.

The identification of narratives with "spaces" derives from Michel de Certeau (1984, p. 117-8), who distinguishes *space* from *place*. For him, "[a] space exists when one takes into consideration vectors of direction, velocities, and time variables." Place, on the other hand, is a quality rooted in a static site.[4] Certeau thus views walking in a city as defining space ("*space is a practiced place*")[5], while reading takes a written text – a place – and produces space from it. "Stories thus carry out a labor that constantly transforms places into spaces or spaces into places." It is important to note that both exploration and reading are activities that generate or define space in their own ways: exploration combines places into routes and maps, which constitute spatial narratives, while reading either extends the space of the diegetic world or opens up a new hypodiegetic space.

Academic literature on virtual environments tends to focus on exploration: the field often designated video game studies is especially sensitive to the way in which game narratives are spatially generated. Mary Fuller and Henry Jenkins (1995) apply Certeau's theory to Nintendo games, studying them in comparison with early European narratives of the New World.[6] Espen Aarseth (1997) does not cite Certeau, but he

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[4] Dourish (2006) applies Certeau's concepts in the context of digital design. He points out that while other traditions distinguish place by the fact of its social mediation, Certeau rather sees both space and place as defined by social practice.

[5] Emphasis in original.

[6] Also see Lammes (2008).

includes adventure games – primarily focusing on text-based games frequently labeled *interactive fiction* – as a subset of what he calls *ergodic literature*, a form that calls for non-trivial effort from the reader/player simply to make the central narrative progress. Many of Aarseth's followers around the beginning of the 21st century identified their movement as *ludology*; they tended to privilege the procedural narratives co-created by players over the textual narratives written into games. Scholars who concerned themselves with textual narratives were cordoned off into the rival camp of *narratology*, although in the last decade the two have gradually merged (Frasca, 2003; Bogost, 2006).

In this paper, I will focus on the narratological side of video game studies and will expand the field of inquiry to include social virtual worlds. At issue is what affects the act of reading in different virtual environments. By drawing out the agency of the reader, one comes to see reading as more closely resembling a game than an intellectual exercise. Victor Nell (1988) acknowledges this quality by employing the term "ludic reading" for the type of reading that offers escape rather than information: ludic readers read compulsively and find themselves transported during the act, although they may have difficulty recounting the content of what they read or distinguishing one book from another.[7] This sense of losing one's bearings or falling out of a self-conscious state is what I refer to under the name of *immersion*, a term that overlaps with others such as transport, absorption, and trance. In pursuing how reading experiences in virtual environments succeed or fall short in immersive potential, I will examine them in terms of the affordances that they provide for *telic* and *paratelic* reading.

[7] An earlier variation on this term is "ludenic reading," coined by William Stephenson (1964).

The theory of psychological reversals pioneered by Michael Apter (1982) focuses on how motivations for human actions are divided into dichotomous pairs, one of which is active at a time. In what Apter calls the domain of means to ends, an individual can conduct an activity in a *telic* (serious or purpose-driven) mode or a *paratelic* (playful or pleasure-driven) mode. It is possible to switch between modes repeatedly and unconsciously within a single session of a given activity. Nell (1988) applies this theory to reading, seeing ludic reading as marked by the reader falling into a paratelic state. Given that immersion in a text is almost by definition a symptom of paratelic reading, an auxiliary argument that I advance may seem counter-intuitive: namely, that reading experiences in virtual environments are more likely to become immersive when they provide affordances for telic reading. The reader, in my view, is more likely to be "hooked" by the experience of reading a textual artifact when it promises some advantage for advancement within, or better understanding of, the diegetic world in which the reader navigates.

This auxiliary argument would need to be tested by psychological research in order to stand on its own, but I employ it as an explanatory factor for my main argument. Now that the terminology and theoretical background has been covered, this argument may be revealed. I examine reading experiences in three distinct types of virtual environment: video games, specifically of the role-playing, adventure, and survival horror genres; "massively" multiplayer online games or MMOGs, and social virtual worlds. My conclusion is that video games current offer the most complete affordances for immersive reading experiences, despite or because of their lack of virtual sociality.

Their advantage is that they offer coherent diegetic worlds that evolve in response to the actions of players, so players feel invested in the worlds and have the incentive to learn about them. MMOGs likewise offer diegetic worlds with attractive fictional content, but these worlds are lacking in coherence due to game mechanics and necessary aspects of how the worlds are populated. Social virtual worlds, despite the ready availability of user-created content in their most prominent representatives, present the least coherent diegetic worlds and therefore the least immersive reading experiences.

Part of examining how reading experiences relate to diegetic worlds involves analyzing how readers interact with textual artifacts: my discussion will be supplemented by analysis of the interfaces between virtual bodies and such artifacts. How these interfaces add to or detract from the reading experience will form an important secondary line of inquiry. Finally, I will examine how the sphere of participatory culture (Jenkins, 2006) enhances reading experiences by the dissemination on the Web – that is, outside the diegetic worlds provided in virtual environments – of software modifications and other user-created content, which can then be imported into the diegetic worlds according to user desire. This principle holds for all types of virtual environments under examination, and it tends to operate most strongly for video games despite their lack of persistent shared worlds.

## Chapter 2: Video Games

I will first examine the virtual environment of the video game.[8] In contrast to the shared, persistent environments that unambiguously merit the title of virtual words, video games are here treated as games in which the central narrative is tied to the actions of a single player. While for convenience I may refer to these as "single-player" games, it should be observed that many of them offer players the opportunity to cooperate or compete with each other. For example, the popular *Halo* series derives its popularity primarily from multiplayer gaming, but such gaming occurs in a context divorced from the central game narratives. Likewise, all games in the series allow two players to simultaneously traverse the central narrative in a cooperative fashion, but doing so does nothing to change the narrative; in fact, the game's cinematic cutscenes continue to act as though only one player were present. The video games that I will examine are not those that limit action to one player, but rather those whose central narratives assume that one player is driving the action. The diegetic worlds contained in these games are not persistent: they disappear and reappear along with the player(s). The games under analysis in this section will be those with strong narrative components, specifically graphical video games in the role-playing, adventure, and survival horror genres.

Not all video games present immersive fictional worlds for the player to navigate: *Tetris*, for instance, requires the player to manipulate abstract shapes that do not

[8] For a formal analysis of what constitutes a video game in terms of both content and format, see Wolf (2001a).

correspond with real-world forms.[9] Jesper Juul (2005) describes other games that present the player with incoherent worlds in which recognizable characters and objects (mushrooms, a giant gorilla) interact in such a manner that it is impossible to extrapolate a sensible narrative context for them. In contrast, this discussion will focus on video games that project coherent fictional worlds for the player to explore. I have mentioned the claim by Fuller and Jenkins (1995) that video games tend to emphasize exploration of space over plot progression or character development; while games such as *Heavy Rain* belie this generalization by providing more strongly "cinematic" storylines, it continues to be the dominant model of game narrative. Video games privilege exploration as a means of creating or defining space.

The function of textual artifacts in the fictional worlds of video games is generally that of a secondary narrative, one which complements the spatial narrative constituted by the player's movements. In-game texts contribute a "lived-in" feeling to the fictional world, lending it the sense of a continuous history and a network of ongoing social relations. Juul (2005, p. 133) refers to the possibility of "staging" games within larger games such as the arcade machines that the player can use in *Shenmue*; he makes the point that this act of nesting is only possible when the outer game corresponds to a fictional world. The same principle applies to in-game diegetic texts and other forms of virtualized intertextuality that support the overarching spatial narrative. In what follows, I will first trace the development of how textual artifacts have appeared in video games

[9] Although note Murray's (1997, p. 144) claim that *Tetris* "is a perfect enactment of the overtasked lives of Americans in the 1990s…"

and then analyze the affordances that they provide for paratelic or telic reading. I will also examine texts as virtually physical artifacts within the fictional worlds of games, followed by a look at how they are disseminated or augmented in the sphere of participatory culture.

In this section, I will argue that despite their lack of synchronous collaboration to develop emergent content, video games offer the most sophisticated and immersive reading experiences available in any form of virtual environment. The superiority of video games in this regard stems from the fact that they situate reading within the context of a diegetic world which the player is encouraged to explore and understand. The narratives contained in virtual textual artifacts serve both as entertainment and as tools for the explication and enrichment of game space. While emergent narratives and user-generated content do appear in relation to video games, their proliferation and exchange take place outside their diegetic worlds, with fans exchanging them via the Web and other online media.

*Development*

When adventure and role-playing video games first appeared, technological limitations forced them to rely on text to convey the narrative. Games like *Zork* and *Enchanter* interacted with the player by outlining a scenario and parsing the player's typed responses (Aarseth, 1997; Montfort, 2003). In this setting, there was little to differentiate diegetic textual artifacts from the rest of the game's fictional world. In order to accentuate the player's feeling of exploring an unknown fantasy world, crude images composed of textual symbols depicted landscapes and castles in some games. This

"ASCII art" became quite sophisticated and continued to thrive as a niche art form even after games had evolved well past the point of needing it. Text-based games began to incorporate simple line drawings (*The Hobbit*) and eventually colored backdrops. The well-known *King's Quest* series is a striking hybrid between text-based and graphical interfaces: the player uses the arrow keys to navigate an avatar around a series of detailed environments, but more complex actions are typed by the player in real time and processed by the game's parser before being depicted on the screen.

In many of the earlier graphical role-playing games, such as the *Final Fantasy* series and the *Ultima* series prior to *Ultima Online*, dialogue is the primary means for providing backstory and developing the sense of a fully realized fictional world. Such games display dialogue as text on the screen, causing the player to process conversation as a visual rather than an auditory experience. Later role-playing games like Bioware's *Star Wars: Knights of the Old Republic* or *Jade Empire* allow incoming dialogue to be heard, along with optional subtitles. However, characters frequently speak in constructed languages to the player (Huttese in the former example, Tho Fan in the latter) that can only be understood via subtitles. Likewise, the player communicates by selecting from a list of possible responses in English; these responses are not accompanied by aural equivalents. Virtual textual artifacts can be crucial sources of information about the diegetic game worlds, but their importance tends to be secondary to dialogue in either textual or auditory form.

The typical fantasy or science fiction role-playing video game, although it allowed players to utilize books and scrolls in order to learn spells, was not an ideal

platform for developing increasingly elaborate diegetic textual artifacts: the existence of willing interlocutors was sufficient for advancing the central narrative. Instead, texts thrived in graphical "point-and-click" adventure games and their offshoot, the "survival horror" genre; such games prioritize visual scanning and puzzle-solving over dialogue.[10] The smash hit *Myst*, which situated the player in a series of unpopulated fantasy realms, relied heavily on books as both vehicles for backstory and magical tools in their own right. (Books could be used to teleport between realms, and they were revealed to contain imprisoned magical beings.) In games where dialogue played a limited part and players were expected to engage in quiet contemplation of the game world, textual materials were an especially concrete and effective way of conveying information.

The use of diegetic books and other textual materials in adventure games is an example of what Jay David Bolter and Richard Grusin (1999, p. 45) term "remediation," the "representation of one medium in another" which is "a defining characteristic of the new digital media." While the phenomenon that they describe is quite broad, the appearance of simulated analog media in digital form corresponds to what Anna Everett (2003) calls "digitextuality," a process that serves to cultivate a sense of familiarity and authenticity. Ewan Kirkland (2008) applies this concept to survival horror titles such as *Resident Evil*, in which game features that disrupt the coherence of the fictional world are dressed up in the trappings of old media. When the player wishes to save progress in a game – an act that falls outside the logic of the diegetic world (Juul 2005) – the action is

[10] I follow common conventions of video game journalism rather than a formal typology of video game genres. For one example of the latter, see Wolf (2001b).

represented variously as writing in a journal, typing on a typewriter, or leaving a message on a tape recorder (Kirkland 2008, p. 121). Digitextuality is useful for a variety of functions: in addition to disguising the more jarring intrusions of game mechanics into the fictional world, it can serve to make the world more evocative. In *Bioshock*, the player traces the history of the abandoned underwater city of Rapture via audio diaries; because these bear the distinctive aural features of vinyl records, they confirm the temporal setting as occurring during the mid-20th century. In *The Call of Cthulhu: Dark Corners of the Earth*, the player is shown fleeting glimpses of occult books familiar to H.P. Lovecraft readers – *Unaussprechliche Kulten*, for example, and the *Pnakotic Manuscripts*. The important and secret content of these books is suggested by an appearance that implies great age (beyond the early 20th-century setting) and binding that is not mass-produced.

*Telic and Paratelic Reading*

I have already explained telic and paratelic modes of action as they apply to reading: telic reading seeks a particular goal, while paratelic reading is done for enjoyment. Video games use diegetic textual artifacts to afford both states of use, although increasing narrative complexity in games tends toward more numerous affordances for paratelic reading. These affordances are associated with greater potential for immersive reading experiences; however, I also argue that players are especially likely to become immersed when telic reading is likewise supported.

The books and scrolls that can be picked up to learn spells or eliminate obstacles in early role-playing games are processed in telic fashion from the point of view of the

avatar, who gains knowledge or advancement from them[11]; from the point of view of the player, however, who can not read them, they do not even qualify as texts. In the case of *Myst*, the books function as tools linking different worlds, but they also contain information that is accessible to the player. These books afford telic reading, but not without some concern for aesthetic quality. Such is most often the case with textual artifacts in graphical adventure games: they must be perused for hints to the solution of puzzles that hinder game progression, but they also enhance the atmosphere of navigating a "lived-in" world. This blend of affordances for telic and paratelic reading found in video games contributes to immersive reading experiences: reading becomes both mandatory and potentially pleasurable.

An especially prevalent category of textual artifact that can be found in all categories of videogames under investigation (graphical adventure, survival horror, and role-playing games) is the journal taken from the corpse of an earlier adventurer. These texts afford telic reading – they usually hint at a solution for avoiding the unfortunate fates of their writers – but they also serve to instill in the player a sense of dread at the upcoming challenges and sadness at the prospect of untimely death. In the postapocalyptic future of *Chrono Trigger*, the player can read journal entries written by a man who died trying to scavenge food for his wife and child. The pages provide tips on how to avoid or defeat the malfunctioning robots that plague the area, but they are also poignant in their depiction of the man's selfless devotion to his family. In *Star Wars:*

[11] For instance, the player in *Zork* reads a book aloud to exorcize spirits that block a pathway, but the contents do not appear to the player (stwaldron1, 2009).

*Knights of the Old Republic*, journal entries found near the corpses of two Jedi Knights detail their participation in the Great Hunt, a galaxy-wide effort to wipe out the monsters known as terentateks. When pieced together, the journals tell a story of forbidden romance and a quest tragically doomed by conflicting egos; they also hint that some terentateks survived the Great Hunt and provide tips on how to defeat them.[12] The personal journal is well-equipped to guide the player through the game's progression while inspiring pathos and referring to prior events. Its relationship to the diegetic game world is such as to provide affordances for both telic and paratelic reading to the player.

Another sort of diegetic text can be found in video games: one whose use affords benefits according to game mechanics, but whose content need not be read in order to advance a quest. The books in *Jade Empire*, arrayed across the world on decorative stands, fall under this category. The act of opening a book provides the avatar with a small amount of experience, which, in the familiar role-playing game model, accumulates and allows the avatar to "level up" and become stronger. Whether or not the player has bothered to read the book, it is assumed that the avatar has, and has profited tangibly from it. Each book is part of a set, and reading an entire set provides a much greater experience bonus; thus, the placement of bookstands in sometimes obscure locations gives the player an incentive to thoroughly explore the game world instead of narrowly focusing on completing quests. In terms of what the player actually processes, however,

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[12] The story behind these journal entries is expanded upon in the story "Shadows and Light" (Ortega, 2005), an installment in the *Star Wars Tales* comic book series. This sort of connection between diegetic texts and "out-of-game" texts, both official and unofficial, will be addressed in a later section.

these texts afford a remarkably paratelic mode of reading. Their content rarely bears on the solution of puzzles, but rather gives an impressionistic and sometimes humorous reflection on the history of the game world and the different cultures and socioeconomic groups found therein.[13] The player could opt not to read most of these books without being penalized in terms of quest progression; the main reason to linger over them is to become increasingly immersed in the fictional world. The direct telic component of reading such texts – that they provide the avatar with experience – is supplemented by a less concrete but still telic quality. The player can read to learn about the game world, in order to gain a sense of where to go and what to say: the narratives contained in these books may be applied to diegetic space.

The *Elder Scrolls* series of role-playing games, which includes *Morrowind*, *Oblivion*, and *Skyrim*, offers a strikingly open-ended world to the player. A great deal of content is included to allow players to spend as much time as desired exploring the world and "playing around" instead of pursuing particular objectives. Possibilities include owning real estate and even entering into a marriage with a computer-controlled character. Reading is also supported as a significant leisure activity: there are over one hundred books in *Oblivion* and hundreds available in *Skyrim*.[14] Some books provide spells or experience to the player, but a great many offer no immediate advantage and are simply there to be read. The player does have the option of selling such books, or

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[13] Examples in *Jade Empire* include the multi-volume *History of Flight* and the series of philosophical treatises on *The Physical Universe*. A complete list can be found at MysticWeirdo (2005).

[14] For *Oblivion*, see Books (Oblivion) (n.d.). For *Skyrim*, see Books (Skyrim) (n.d.).

collecting them on a bookshelf in one's house. The model of reading that such books afford is much more paratelic than is the norm in videogames, but many players do not read these books entirely for their own sake. Instead, their goal is to gain a better understanding of, and sense of immersion in, the game world. Moreover, a minority of the books that can be found do increase avatar capital in the direct fashion familiar from *Jade Empire*: a treatise on blacksmithing might turn out the increase the player's skill level in that particular area. Even rarer books provide information to the player that opens up an additional optional quest: the tome "Lost Legends," for example, opens up the quest to investigate the legend of the Archmage Gauldur (Forbidden Legend, n.d.).

Finally, I will explore one scenario which affords thoroughly paratelic reading, i.e., not connected to the outside game world. The *Elder Scrolls* series gives users license to create and share a great number of "mods," files which augment the gameplay as created by the designers (Postigo, 2007; Newman, 2008; Sotamaa, 2010). "Out-of-universe" books can be created in this manner. A mod for *Morrowind* allowed players to purchase and read books by H.P. Lovecraft and Lewis Carroll (Barton, 2008, p. 305), while other mods give players the opportunity to write their own books.[15] Player-written books may serve only to expand the personal in-game library of a player, or they may be shared (outside the context of the diegetic world) for other players to import into their own worlds.

*Work and Play within Game Worlds*

[15] A popular book-writing mod can be found is Kyoma (2011).

Why do players spend time reading diegetic textual materials in games when such texts will not advance their progress at all? According to Mihali Csikszentmihalyi (1990), "flow" is achieved when an activity strikes an optimal balance between challenge and relaxation, avoiding the generation of either frustration or boredom. If flow is used as the sole criterion for good game design, then there is no sense in requiring the player to perform mindless tasks or in providing opportunity for activities that do not contribute to game or quest completion. Juul (2005, p. 155) speaks of "dead time" in which players are not being challenged, but later (p. 199) he mentions the appeal of games like *Super Mario 64* and *Grand Theft Auto III* in which "the player is mostly not critically threatened, and can therefore choose to simply play around instead of trying to reach the goal." Gordon Calleja (2010) examines how the sense of escapism provided by videogames is entirely determined by the context of the player's daily life: in the case of someone whose career already provides excessive challenge, the ability to read, garden, or simply "play around" can be intensely therapeutic.

Games that provide both a compelling central quest and multiple avenues for "playing around" are frequently identified as "sandbox games." The prototype example of a sandbox game is *Grand Theft Auto III*, in which the player can steal a taxi and shuttle passengers to their destinations, collect sets of items hidden throughout the landscape, or simply walk around committing unmotivated acts of violence. This open-ended approach to game narrative, which requires a special name in relation to action games, is more of a typical feature of role-playing and adventures games. Such games strike a balance

between emphasizing the importance of the central quest and encouraging players to explore and play without the worry that their time is going to waste.

Matt Garite (2003) delivers a critique of video games based upon the notion that they reinforce the structure of capitalist society: what the player does, while pursuing an increasingly ambitious series of goals within a strictly enforced rule set, is to work.[16] Following Calleja (2010), this may explain the appeal of video games that encourage undirected play. Following a day of work, the player is likely to sometimes crave the opportunity to frolic in a lush game world or perform simple, meditative tasks instead of fulfilling the obligations of a quest.[17] The availability of textual material conducive to paratelic reading can thus provide a window for leisure within the video game, bearing only a tenuous connection to the central narrative on which informs the game world. When the player does not wish to navigate the game world's space, textual artifacts provide the ability to open up hypodiegetic spaces that feel safer or less demanding.

*The Physicality of Diegetic Books*

So far I have examined how video games employ the virtual forms of textual artifacts in order to inspire feelings of authenticity and familiarity.[18] I will now proceed to investigate how they simulate a sense of physicality in these objects. When a player encounters a book in a video game such as *Skyrim*, the first impression is of the texture of

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[16] A similar argument is advanced in regard to MMOGs by S. Rettberg (2008).

[17] For more on the potential of videogames to produce relaxation, see Bogost (2011).

[18] It is worth noting that very many of the books found in videogames have the appearance of being handwritten rather than printed. In addition to providing a sense of emotional directness in which the author speaks to the player, this could be seen as an effort to impart a "virtual aura" (following Benjamin, 2007) to these items.

the cover, often a thick-looking, leather-bound tome. Opening the book exposes the pages, which usually look yellowed to indicate age and turn with an exaggerated rustling noise. Stains from coffee, blood, or candle wax are among the blemishes that tend to mark the pages, providing a stark contrast to the digital interface through which the player is actually viewing the action. The handwriting may look a bit too regular to be written by a human hand, but the more careful games avoid this; some even use the shape of the penmanship to depict changes of emotion. A favorite device in the survival horror genre is the journal that degrades into panicked scribbling during the final entry, the last word incomplete and terminating in a long scrawl, as if the writer fled in terror or met a violent end.

Beyond simulating texture, most videogames do not pay much attention to the physicality of books, to their dimensions and weight. Whereas most role-playing games and survival horror games require the player to practice strategic resource allocation by limiting the number of items that can be carried, this principle tends to extend only to "essential" items such as weapons and tools. In *Star Wars: Knights of the Old Republic*, the player can collect an unlimited amount of texts and browse through them as desired. *The Legend of Zelda: Majora's Mask* treats documents as usable items, but they feature in small-scale quests and are removed from the inventory once they have served their purpose. One game that employs a book as a consistently usable item is *The Legend of Zelda: A Link to the Past*. In it, the Book of Mudora allows the player to decipher a hitherto illegible script engraved on monuments around the landscape; although the book is not identified as a dictionary, it appears to serve that purpose when it is equipped. The

player is not able to read the book itself, so its function could easily have been fulfilled by any sort of magical artifact. Besides the fact that the player equips it, the Book of Mudora's physicality is only emphasized when the player has to knock it off of a tall library bookshelf to acquire it.

Unsurprisingly, the *Elder Scrolls* series devotes greater attention to the physicality of textual artifacts than do most other videogames: as mentioned earlier, players in *Oblivion* or *Skyrim* can acquire a house and gradually build a personal in-game library, ranging from spell books to bawdy texts like "The Lusty Argonian Maid." The process of placing and arranging books on shelves was deemed important enough to be refined by a number of user-submitted mods.[19]

*External Media*

The diegetic worlds of video games extend into a variety of other media, partly as a result of official licensing efforts: paraphernalia, soundtracks, game guides, and even film adaptations are all ways to extend the property of a game into other money-making spaces. (External media can also be used to extend diegetic worlds, as in the case of tie-in novels and comic books.) But alongside the licensing realm lies the realm of fandom, residing especially on the Web. Here players are welcome to argue the merits and demerits of games, create walkthroughs and wikis, and create original narratives set in their favorite game worlds. Jenkins (2006) argues that the aggregation of fandom communities might constitute the so-called "collective intelligence" of the Web. And

[19] E.g., Peter (2007).

here user-driven innovation may introduce new sites for reading while more conservative game developers stick to proven action formulas.

The practice of allowing players to tinker with the mechanics and uses of game worlds has a long history, traceable in part to multi-user dungeons (MUDs) that allowed users to script their own items with unique properties (Murray 1997). For the sake of my analysis, an important development came with the release of level-editing tools for *Doom* and other first-person shooters utilizing the same engine, such as *Dark Forces*. According to Steven Johnson (1997, p. 75), "[t]here's no reason why a *Quake* level couldn't be designed to accommodate a game of hide-and-seek – or, for that matter, a weekly Emily Dickinson reading group." These levels were traded and disseminated, architectural spaces allowing for a range of narrative uses beyond the action context.

User modifications to video games such as those in the *Elder Scrolls* series allow players to craft their own reading experiences and even to write their own books. While these additions are not officially condoned by the developer and thus are unable to become authoritative, they are frequently shared with other players on the Web: such a system of exchanges thrives especially when the developer makes no efforts to block modifications or even provides tools for their construction. User-generated modifications not only appear as downloadable files but are documented via YouTube and other social media. In an industry that produces many videogame sequels and demands a constant level of innovation, user-generated modifications can become a source of inspiration for game designers. Players whose interest in in-game reading spills out into the fandom community have the power to potentially strengthen reading experiences in future games.

Of course, textual artifacts manufactured by users are disseminated and acquired outside the diegetic worlds for which they are intended. The interested reader in this case would seek out a desired text on the Web and then import it into the game world. In this way, user-created content is available without greatly degrading the integrity of the diegetic world designed by the software developers. A number of available mods even seek to increase the world's coherence or the immediacy of navigating the world by improving on game mechanics: by allowing a player to arrange books on a bookshelf at will, one increases the immediacy and potential immersion of the player's reading experiences.

## Chapter 3: Massively Multiplayer Online Games (MMOGs)

The class of artifacts usually referred to by the abbreviations MMO or MMOG are certainly video games, but their property of hosting large numbers of players gives them different qualities from the games that I have so far examined. While the diegetic worlds of other video games go in and out of existence when the player begins or ends a session, MMOG worlds are persistent: they continue to exist when players log off.[20] MMOGs typically require monthly subscription fees beyond the purchase of the software in order to remain active within a game world;[21] because MMOG developers want players to remain active as long as possible, the games do not provide fixed endings. Players usually aim to achieve the highest possible ranking within the game parameters and to acquire other prestige-bearing trappings, such as rare clothing that can only be attained by defeating certain enemies (Taylor 2006). In order to avoid player boredom, developers issue frequent updates; these range from minor bug fixes and tweaks to game mechanics, to major additions of content that generally call for the purchase of new software and may raise the maximum ranking level for players[22]. Thus, MMOGs each feature what is ideally a diegetic "world without end"; only when the company shuts down the servers running the game does the world go out of existence.

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[20] To be specific, this section focuses on "Massively Multiplayer Role-Playing Games" or MMORPGS. While this subcategory houses by far the most popular MMOGs, there are MMOG genres such as the first-person shooter (e.g., *PlanetSide*) and the historical simulation (e.g., *World War II Online*). The distinction between "massively" multiplayer and simply multiplayer is arbitrary, but most games that are not considered MMOGs allow for fewer than twenty players to interact at once.

[21] See Castronova (2005, p. 30-4) for a description of how one typically enters a MMOG world.

[22] One of these updates for *World of Warcraft* is *Cataclysm*, which I will address below.

MMOGs derive strongly from the text-based games known as multi-user dungeons or MUDs. Many of the conventions and game mechanics of MUDs reappear in MMOGs, but with the added immersive element of graphics; this leads to a less prominent role for textual material, as each player participates in an open-ended spatial narrative without constant need for words. Several well-known MMOGs have also developed from long-standing series of video games, such as *Ultima Online*, *World of Warcraft*, and *Final Fantasy Online*. Such MMOGs have the advantage of building on a world that is already defined in many ways particular and familiar to a core group of players.

*Narrative*

MMOGs place the player inside an immersive virtual world, but it is important to note some limitations to the coherence of the diegetic world. Whereas single-player games are able to offer worlds in which the player's actions alter the course of history, this is not a typical feature in MMOGs: when players' actions bring about tangible consequences in MMOGs, they tend to do so at the expense of world coherence and hence of immersion. There is, in fact, no strong "built-in" narrative or storyline for the player to follow in most MMOGs. Instead, the player is offered a series of quests (J. W. Rettberg, 2008), which are generally not necessary but are the best facilitators of advancement at the time that they are offered; such quests cater to the experience level of the player with enemies that are just possible to defeat without major frustration. The

advancement spoken of here does not have to correspond to unwinding a story,[23] but rather involves gains in what Castronova (2005, p. 110) calls "avatar capital": tangible marks of prestige such as quest-specific items ("loot") and experience level. I will argue that the relationships between virtual textual artifacts and diegetic worlds are weaker in MMOGs than in traditional video games because the reading player focuses on avatar advancement rather than narrative advancement.

With no set storyline for the player to follow, one might expect that emergent narratives – those not provided by the game developer but rather brought into existence by the social interaction of players within the context of the game mechanics – would provide the dominant form of immersion. To some extent this is true, and the creative activities of players within MMOGs are certainly touted as making such games especially fulfilling: players organized into guilds can manufacture a group identity and put on in-game events like parades (Bainbridge, 2010). But emergent narratives are heavily constrained by the game mechanics and terms of services of most MMOGs, and as I will show later in this chapter, they tend to flourish only when they are transplanted from the game context to other media. For MMOG developers have an interest in controlling the state of the diegetic worlds that they create instead of handing control over to players, as

[23] Advancement usually broadens the range of possible experience for the player by making it possible to traverse increasingly difficult spaces and explore more of the world. This principle usually operates by incentive, as when tough monsters wait to kill the player who is not yet advanced enough to enter a region. However, sometimes a material obstacle will require that players reach a certain advancement milestone before proceeding: a common example is the gate that confines new players to the "newbie zone" until they reach a given experience level.

well as practical considerations that prevent the unrestricted growth of emergent narratives.

One of the constraints on emergent narratives is simply the fact that MMOGs are unable to accommodate all players on the same server. A typical MMOG runs on a number of servers (sometimes called "shards"); the diegetic world in which the player moves does not extend to the game as a whole, but rather to the server (Winget, 2011). Whereas a social virtual world like Second Life runs on a cluster of connected server computers, each of which controls a different sector of the same diegetic world, MMOGs more frequently rely on client-side software to depict the world's geography while each server hosts a limited number of players in order to reduce lag.[24] While it may be possible to transfer a character from one server to another, there is no narrative function corresponding to this action. Castronova (2005) argues that when we speak of virtual or diegetic worlds ("synthetic worlds" is his preferred term), we are really speaking of servers or server clusters, and thus each game constitutes a constellation of worlds. The fracturing of game worlds in multiple instantiations provides a constraint to emergent narratives in the sense that it prevents the crystallization of any authoritative narrative. In cases where a MMOG exists alongside other media as part of a coherent fictional

[24] Shards also serve to group players according to their style of gameplay. *World of Warcraft* and *Star Wars: The Old Republic* allow players to select shards that allow or prohibit PVP (player-versus-player combat) and do or do not mandate role-playing,

"universe," this means that player-created content is not capable of entering into "canon," because it only exists on one server.[25]

In addition, MMOGs are usually set up to prevent players from making permanent changes to the state of the diegetic world. While changes are theoretically possible, they are usually seen as undesirable. One reason is that players might kill off a central character or otherwise destroy a crucial element of the world: the most notorious example of this being the assassination of Lord British, ruler of *Ultima Online*.[26] For the most part, however, the limitation of players' ability to enact permanent changes is part of an effort to maintain quality of play for newer and less advanced players.[27]

The downside of a diegetic world that promotes player freedom is that all of the most interesting goals – rare loot acquired, challenging monsters slain, kingdoms conquered – will be attained by advanced players, leaving new players without appealing objectives; lack of content for new players gives them a disincentive to continue playing. MMOGs employ various mechanics that are meant to ensure fun for all players but damage the coherence of the game world. Major in-game events such as the death of a villain may be infinitely repeatable, and time does not necessarily flow in a linear manner

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[25] Star Wars continuity guru Leland Chee provided this explanation for why emergent narratives from *Star Wars Galaxies* could not enter into continuity. This information is given at Star Wars Galaxies (n.d.), although the forum entry that it cites is no longer active.

[26] This event is chronicled in many documents on the Web; a particularly full account can be found at Howard (2009). See Lastowka (2010) for an analysis of Lord British as legal authority. It should be noted that the uproar over Lord British's death occurred even though the death was not permanent.

[27] An example of how MMOG developers tinker with game mechanics in order to avoid discouraging newer and weaker players can be found in this Zenke (2008), which provides an overview of the consequences of such actions in *Star Wars Galaxies*.

as far as such events are concerned (Bainbridge, 2010). In *World of Warcraft*, "you may, for example, have killed the dragon Onyxia, but you will still find her alive in human form as Lady Katrana Prestor in Stormwind Keep at the side of the human boy-King, and encounter her repeatedly in multiple visits" (Krzywinska, 2008). The fact that normal chains of causality do not determine the makeup of the diegetic world degrades the player's sense of agency inside it; the player thus has less incentive to turn to virtual textual artifacts for information on the world. The potential for telic reading experiences is inadvertently damaged by game mechanics meant to provide fun for a broad base of players.

The use of "instanced" dungeons is another strategy that enhances immediate dramatic immersion but damages world coherence. Players who band together in raiding parties may enter a dungeon, kill the monsters inside, and make off with the valuable loot found inside. After they leave, the dungeon regenerates in order to be ready for the next raiding party (J. W. Rettberg, 2008). Heroic deeds are done, but they bear no lasting effect on the game world, and others are already lining up to perform the same deeds. Aarseth (2008) refers to the condensed scope and impossible geography of *World of Warcraft*, comparing it to an amusement park rather than a believably simulated world. To continue this analogy, instanced dungeons function like rides: one can even line back up to repeat a favorite, although the layout of the world encourages one to move on to the next attraction. This structure makes it strange to place readable textual artifacts in an instanced dungeon, as is the case with the Scarlet Monastery Library in *World of Warcraft*. Since such areas are usually too difficult for one player to traverse alone,

anyone encountering these texts is probably among potentially impatient peers, not an optimal condition for immersive reading experiences.

The weakness of central narrative and the constraints placed on emergent narratives in MMOGs leave a void that must be filled if the diegetic worlds are to resonate with players: recall Certeau's thesis that stories are what make spaces meaningful for the people traversing them. In MMOGs, the narrative grounding of the game world is primarily accomplished by what is known as *lore*. Lore is a generic term for the collection of textual sources, storied artifacts, and architectural monuments that give the world a feeling of history. While lore is generally fragmentary and easily ignored (Krzywinska, 2009), it lends significance to the landscape and to the ongoing conflicts in the game for those who are interested in delving into it. According to MUD and MMOG designer Richard Bartle (2004, p. 242), it is wise to lend "the sense that the virtual world has a past – that it was fully functioning before players came along." Lore does provide a sense of coherence to the diegetic game world, which helps to counteract the fact that players lack agency to affect the world via normal relations of causality.

Textual artifacts constitute a significant section of MMOG lore, but in the examples surveyed, they did not reach the level of length and detail to be found in traditional video games. Why, in the context of vastly detailed virtual worlds, is the player limited to shallow reading experiences? One reason for this seems to be the importance of progression via quests in mainstream MMOGs like *Everquest* and *World of Warcraft*. Mortensen (2008) argues that the game mechanics of the latter actually penalize players who attempt to role-play, and Rettberg (2008) notes the loss of

immersion that results from the tendency of players to approach quests in abstract rather than narrative terms.[28] Bartle's (2004, p. 130) famous typology of gamer personalities includes the category of Explorers, whose aim is "increasing their knowledge about the way the virtual world works. Their joy is in discovery. They seek out the new." It seems that in MMOGs with a disproportionate emphasis on progression through battle, the Explorer can suffer from a sense of alienation. Both Taylor (2006) and Bainbridge (2010) provide anecdotes about social bonds in MMOGs breaking down when one player favored exploration and another favored rapid advancement.

There does exist an opposing movement in MMOG design, one that seeks to lessen the emphasis on combat and provide players with alternative means for advancement. This approach is heavily associated with designer Ralph Koster, who helmed the creative teams behind both *Ultima Online* and *Star Wars Galaxies*. Koster (2005) attempts to ground game design in an expansive definition of "fun," one that encompasses not only fast-paced enjoyment but also relaxation and personal fulfillment.[29] The ideal goal of this approach is to design MMOGs in which players can live fully realized lives as artisans, entertainers, or merchants without engaging in violent pursuits. One could see this tendency as more conducive to the propagation of textual artifacts and in-game reading – which might flourish when they are not crowded out by combat – and in fact *Ultima Online* does feature a large number of collectible books. But

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[28] Taylor (2006) analyzes the phenomenon of the "power gamer" in *Everquest*, who emphasizes efficiency and calculation over role-playing or any concern with narrative.

[29] Bogost (2006, p. 117-27) criticizes this concept of "fun" as an artificial formulation divorced from actual usage; he also notes the widespread opinion that *Star Wars Galaxies* does not actually provide traditional fun for the player.

these books consist largely of miniscule fragments, each one only a few sentences long. In *Star Wars Galaxies* there is a smattering of artwork and other collectibles meant purely for enjoyment, but reading as an activity seems to have been dropped entirely.

*Game Changes*

I should qualify the preceding discussion of reading experiences in the game worlds of MMOGs by noting that although these diegetic worlds are immutable from the point of view of the player, they are not so from the developer's point of view. Fixes and tweaks to game mechanics may be added at will by the developers and integrated into the MMOG immediately. Substantial changes usually take place as part of new content packs or upgrades, which players opt into and generally pay extra for.[30] The relationship between textual artifacts and the diegetic world can be altered by such updates and should not be seen as static. For instance, players of *World of Warcraft* were formerly provided quests by means of text that slowly faded into existence, encouraging them to read every line carefully. More than simply offering affordances for reading, this comes closer to making it mandatory. Responding to a wave of complaints and the proliferation of unsanctioned mods allowing quest text to show up all at once, Blizzard disabled the slow fade-in. Players that had enjoyed the slow fade-in for its immersive quality had recourse to mods in order to restore it.[31]

Developers have also experienced with ways to allow players to visibly affect the appearance of the game world by their actions without imposing changes on other

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[30] Thanks to Jocelyn Monahan for providing me with both of the examples in this section.

[31] This forum posting Bitterness (2010) documents a player seeking to restore the slow fade-in.

players. In the *Cataclysm* expansion, *World of Warcraft* players navigate an environment that changes in accordance with their skill level, but these changes are only visible to each individual. The fact that the landscape is generated by client-side software makes this alteration possible: the players continue to interact with each other in the same way but see different worlds depending on their level of advancement. This added feature affects the coherence of the diegetic world in conflicting ways: it furthers a solipsistic approach to the world already evident in the structure of endlessly repeatable quests, but it does give players a sense that their actions and progression actually make a difference to the game world.

*Telic vs. Paratelic*

In examining the affordances that textual artifacts in MMOGs provide for telic or paratelic reading, it is important to note that the functional value of these artifacts, quite apart from their availability for reading, bears special emphasis. In addition to containing readable text, books frequently bestow benefits such as experience, spell-casting abilities, or buffs (bonuses to player attributes or protection from certain attacks); they are also frequently eligible for sale in exchange for in-game currency. In *Everquest*, a book is the artifact that allows players to teleport to what is called the Plane of Knowledge (Taylor 2006). So it follows that the *use* of a textual artifact in a MMOG is usually telic by definition; the question remains how much the subsequent act of *reading* can be paratelic. To the extent that MMOGs provide affordances for partially telic reading, they can be said to match the immersive reading experiences available available in traditional video games.

*Ultima Online* certainly attempts to impart some enjoyment through the reading of in-game textual artifacts, but as stated earlier, the extremely short length of many texts prohibits the cultivation of an immersive reading experience. There are a few central texts that are substantial by video game standards – "Dimensional Travel, A Monograph" or a treatise on virtue by the aforementioned Lord British – but many of the books that the player can obtain through quests consist of a few sentences apiece. Bizarrely, one of these fragments bears the title of *Alice in Wonderland*. It barely qualifies as a description of the novel, much less a full synopsis, but it leaves us with the intriguing question of how to define such a work. Nick Montfort's (2003) application of the idea of hypodiegetic worlds – fictional worlds nested inside other fictional worlds – can apply here, but the fact that the inner world derives from an artifact produced in the real world provides a fascinating twist. This text alone can be defined as absolutely paratelic, as it is not likely to shed any light on the diegetic world of *Ultima Online*.[32]

The mainstream MMOGs that encourage players to focus on combat-based progression can be surprisingly more conducive to immersive reading experiences. *Everquest* and *World of Warcraft* both contain numerous books of substantial length that can be perused for information about the game world or general atmosphere. *World of Warcraft* makes most books available to the character to carry and read – quest-specific books tend to disappear when they are no longer relevant – but the most important sources of game lore appear as fixed objects that must be read where they are housed.

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[32] Book collection and library building can be accomplished in *Ultima Online*. See Winget (2011) for the details of one such personal library.

These books, which provide the history of the realm of Azeroth, form a distinctive type of in-game literature: the MMOG's take on the reference collection.

Reading does not always have to involve consuming what is provided by the game developer: for instance, the player in *Everquest 2* can keep a detailed diary and review it on occasion to reminisce over past occurrences. Yet this ability, while situated in the social environment of the MMOG, is a solitary pursuit. For again, such games are generally not supportive of large-scale emergent narratives within the boundaries of the game world. That is not to say that they prevent their spread in the nexus of game-related material that spans a host of other media.

*External Sources*

The fact that most MMOGs constitute unfruitful ground for both strong central narratives and user-generated, emergent narratives is not lost on their players or on the licensing departments of their developers. Part of the vast assemblage of game-related material – ranging from wikis and strategy guides to interface modifications and unauthorized auctions – consists of stories. Fan fiction detailing the adventures of one's player character mixes with imaginative histories on guild websites. Emergent narratives run rampant on the Web, asserting themselves in this unrestricted environment after being excluded from the official game world. MMOG developers generally do little to counter this outpouring of narratives, which can be seen as providing an outlet for creative impulses that could otherwise mar the fabric of the game world.

Developers also understand the importance of promotional materials across various media, and the biggest franchises – the *Everquest* series, *World of Warcraft*, *Star*

*Wars: The Old Republic* – boast numerous officially licensed tie-in novels, usually by established bestselling authors. These works generally chronicle the history of the game worlds prior to the time of play, establishing an authoritative narrative for the past since one is not possible for the present. By charting the rise of an important game character – the orc chief Thrall, or the sinister Darth Malgus – the player feels special significance when meeting them during the course of gameplay. As I have mentioned, these tie-in narratives also serve to extend the diegetic world of the MMOG, to create more space within it.

It is possible to imagine ways that such external narratives could be re-directed back into the game world: players could pay money to read professionally published sources that would not violate the diegetic world of the MMOG. Likewise, in-game lore could be enriched by player-submitted content, giving an outlet for emergent narratives to become authoritative. This model is not unheard-of in the gaming world: *The Sims 2* makes great use of user-generated content (Taylor 2006), although this practice was not continued in its online successor *The Sims Online*. *Die2Nite* is one browser-based online game that solicits user-created texts via contests and incorporates the best material into game lore. Complex legal issues pertaining to copyright may at present convince major MMOG developers to steer clear of mixing the worlds of the game, licensed content, and fandom. Yet player demand for such a blending has the potential to break down the barriers dividing these three realms.

# Chapter 4: Social Virtual Worlds

A third category of virtual environments is that of social virtual worlds, of which the best known is Second Life; other prominent examples include Entropia Universe, Active Worlds, and IMVU. The defining element of such worlds is that they are not in themselves games, although their interfaces resemble video games enough that users often refer to them as such (Boellstorff, 2008; Malaby, 2009). These worlds exist not primarily as diegetic settings for action but as aesthetically appealing sites for users to convene. Many social virtual worlds consist of simple platforms for synchronous chat and casual gaming (e.g., the chat-oriented IMVU, or the game-oriented Yohoho! Puzzle Pirates); these tend not to offer opportunities for reading and so will not fall under the scope of our analysis. The most elaborate social virtual worlds (Second Life, Entropia Universe, Active Worlds) provide users with the ability to create their own in-world content. Textual artifacts in these worlds are not designed by a central developer; rather, anyone with scripting skills is able to fashion their own virtual books and other texts, along with architectural sites such as libraries and cafes in which to read.

"Social virtual worlds" is a term of convenience, and a cursory Internet search reveals a broad range of terminology for such entities. Wikipedia calls Entropia Universe a "virtual universe," while Active Worlds is a "virtual reality platform."[33] One reason why users might be loath to call such entities "worlds" is that they are not founded upon overarching narratives. Such virtual worlds have geographies and laws of physics, but

[33] See Entropia Universe (n.d.) and Active Worlds (n.d.).

they do not have Bartle's sense of a history that predates any users.[34] To use the term that I have employed in reference to MMOGs, social virtual worlds have no built-in lore. This lack of a central narrative almost entirely eliminates affordances for the particular kind of telic reading that is so common in video games and MMOGs. The ready availability of user-created content does provide the opportunity for innovative reading experiences to emerge, but as I will show, interface difficulties have done much to rob such experiences of the immediacy that can be found in games.

Second Life has led the way in giving residents the tools to populate the virtual world with their own content. Residents create anything from clothes to buildings using objects called primitives or "prims," all-purpose building materials that can be stretched and crafted into any shapes desired and covered with visual textures (Boellstorf, 2008; Au, 2008; Malaby, 2009). A simple scripting language designed for residents allows objects to be imbued with preset animations and automated behaviors. By emphasizing user-created content, Linden Lab, the developer behind Second Life, was able to maintain a relatively small operation and rely on emergent content to keep residents interested (Malaby, 2009). This approach contrasts significantly with that found in most MMOGs, where developer-created content is in high demand and emergent content constitutes a relatively minor aspect of most players' experience.[35]

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[34] Linden Lab, the developer of Second Life, made an abortive attempt to supply such history for the landmass of Heterocera Island by means of archaeological remains. The example will be covered later in this chapter.

[35] The use of primitives could be seen as a graphical evolution of the textual objects that could be created in MOOs (Murray, 1997).

While a number of social virtual worlds provide users with the means to create and craft objects, Second Life took an unprecedented step in 2005 by handing over intellectual property rights for such objects to their creators. Convinced largely by argument from law professor Lawrence Lessig, Linden Lab hoped that such a move would provide a powerful incentive for creation of high-quality content, since residents could prototype products within the virtual world and potentially monetize a successful product. The creator of Tringo, a puzzle game developed and played within Second Life, did successfully sell the game to Nintendo (Au, 2008). Second Life is therefore fertile ground for publishers, both independents and large corporations, to test reading models and peddle products.

This means that textual artifacts in Second Life and other social virtual worlds that follow its example are unlikely to be the work of the world's developers. Residents are the ones who create texts and design reading experiences; however, residents range from amateurs to representatives of corporations seeking to establish a foothold in virtual worlds. The fact that there is no central authority determining what virtual textual artifacts should look like means that no examples given will be definitive; rather, we will examine common practices and structural constraints in the art of crafting books and other artifacts.

*The Dual Nature of Textual Artifacts*

As we have seen in previous sections, reading interfaces in single-player video games and MMOGs tend to be uncomplicated simulations of physical codices or other paper-based formats. These are particularly immediate when viewed within the frame of

a first-person interface: the transparency of the virtual body allows the player to interact with the book as one would in real life. But even in the third-person view found in many single-player games and most MMOGs, virtual textual artifacts appear before the face of the reader, partially or completely obscuring the field of vision and the player's avatar. In this form, texts appear with their distinctive physical qualities on display.

In Second Life, residents are able to read e-books and other texts on a window likewise superimposed over the primary view. However, this interface consists of a typical desktop window with buttons and minimally formatted text, resembling an e-reader but appearing nothing like a codex. As in the Elder Scrolls games, textual artifacts appear in two forms: manipulable objects too small to read, and readable texts that hover over the field of vision. But whereas both forms in video games bear the physical hallmarks of the print or manuscript medium, the readable form in Second Life fails to maintain the illusion of a manuscript or print codex. This is a problem that calls for customizing the reading interface rather than operating with the default viewer included in the client software.

The text window is not the only way to read a book in Second Life. Some text objects are designed to be readable in their simple object forms. For instance, several display books in the Kuhrang Public Library have turnable pages that contain all of the text on them.[36] This format could be described as more immersive, but the difficulty involved in actually viewing the books – the resident has to manually pull the point of

[36] This text is still minimally formatted, and the crude animation of turning pages fails to vividly evoke the feel of a codex.

view in closer to the pages – detracts from the immediacy of the experience.[37] The third-person view dominant in Second Life, which makes the avatar body the main point of contact for the user's eyes, simply does not scale to comparatively small items such as books.

*Publishing*

Publishing books and other texts within social virtual worlds is an attractive prospect both to entrepreneurs excited about the lower obstacles to break into the virtual publishing business and established real-world corporations trying to break into the virtual marketplace. In this section, I will examine several landmark events involving major authors and publishing companies, then look at some anecdotal examples of what independent publishers have been doing differently.

In 2005, science fiction author and popular blogger Cory Doctorow announced his intention to make his latest novel, *Someone Comes to Town, Someone Leaves Town* freely available in a Second Life edition (Au, 2005a; Au, 2005b). In order to do this, he was seeking help in optimally formatting the book for reading in-world (in the form of a text window). But in a public event within Second Life, Doctorow also debuted a massive physical replica of the book, easily readable because it stood taller than a typical avatar. This approach eliminates the problem of scale between avatars and books, but it potentially detracts from the immediacy of the reading experience to leaf through something bigger than one's own virtual body: the book distracts the reader with its size

[37] See jeremykemp (2007) for a library display of art books viewable in their primary form. The narrator acknowledges that such books are hardly readable and refers to them as a "proof of concept."

and is difficult to fit into a traditional library architecture. In this case, the physical copy was meant as a promotional device, not a commodity or a mass-produced object.

Only one year later, a major publisher decided to try manufacturing books tailored to Second Life. In what was announced as a pilot project for the release of a virtual classics bookshelf, Penguin constructed a special edition of Neal Stephenson's *Snow Crash* – the novel most frequently cited as the inspiration for Second Life (Malaby, 2009) – viewable only within the virtual world (Pauli, 2006). Penguin gained much acclaim for its wise choice of novel, a point to which we will return shortly. But this book, while aesthetically polished, functioned primarily as a promotional material to sell more copies of *Snow Crash* outside Second Life. It was not even a complete copy of the novel, and it offered no special features beyond a polished interface and audio capabilities (Chapman, 2006).

While Penguin continued to issue optimistic statements about their publishing plans, it was not until 2007 that the company staged another event in Second Life. This consisted of a talk and virtual book-signing by William Gibson in promotion of his novel *Spook Country* (Ettinghausen, 2007). This event, which was again touted as foreshadowing the release of the Penguin Virtual Bookshelf, did not feature an edition of the book readable within Second Life. This appearance seems to have been little more than a virtual stop on an otherwise nondescript publicity tour. After Gibson's event, Penguin ceased to issue enthusiastic announcements about their virtual publishing line, and the Virtual Bookshelf was quietly dropped.

Overall, Second Life has not proven to be a viable market for major publishing houses or even smaller real-world presses. According to one industry member who did find the virtual world to be useful for promotional purposes[38], "I'm not overly positive about Second Life. It has proved extremely difficult for publishers to use it as a sales tool as people don't tend to buy books there. It's also hard for businesses to justify the time it takes to do anything, even to build a fairly small display and update it."[39] Still, publishers and booksellers operating exclusively in Second Life continue to take advantage of the minimal obstacles to starting their own virtual businesses.[40]

Another option for virtual entrepreneurs is to market platforms for self-publishing. One such platform is hippoBOOK, which follows the familiar dual format – small physical copies and readable text windows – but also offers certain innovations utilizing the scripts and animations available in Second Life. Books generated with hippoBOOK can be set on display shelves and programmed to flip their own pages periodically in order to draw the eyes of potential readers (B & M Software Group, 2012).

Finally, social virtual worlds allow for the creation of immersive experiences that do not focus on reading but instead act as companion pieces to real-world texts. One project in Active Worlds featured a massive physical representation of a Dutch children's

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[38] A search for books in Twinity, a world which emphasizes the creation of mirror images of real cities, turned up similar results: not much in the way of readable books but some potentially lucrative publicity happening. For example, the video from TwinityRules (2008) taken in the virtual version of Berlin depicts a book tour stop similar to Doctorow's.

[40] For an example of a functioning virtual replica of the Paris bookstore Shakespeare and Company, see Paul (2006).

book (*De Sprookjesspeurders*); rather than reading this book, the user is able to walk through it like a portal and enter into a 3-D recreation of the book's diegetic world (ActiveWorldsEurope, 2009). While this does not qualify as a reading experience in our terms because no textual content is available inside the book, it does constitute an innovative use of the platform provided by social virtual worlds, an act of remediation that goes beyond straightforward "digitextuality." Such companion pieces could be very useful both for marketing and for educational purposes.

*Analysis*

The preceding survey of publishing in Second Life brings out two forces antagonistic to immersive reading experiences in Second Life, one systemic and the other contingent: the absence of "lore" from this virtual world, and the failure of residents to design a successful interface for reading. As I have argued, social virtual worlds tend to lack unifying narratives or senses of history. The kind of material in video games and MMOGs that affords a blend of telic and paratelic reading is thus hard to come by. Penguin's choices of authors are intriguing when viewed from this point of view: the publishing house may only have been striving to establish credibility or focus on material with a known following in Second Life, but it managed to touch on one of the only fields of literature that lends itself to partially telic reading in a social virtual world. William Gibson and Neal Stephenson stand in an ancestral relationship to the real-world development of Second Life and other virtual worlds, their works serving as sources of recurring inspiration akin to that of holy books. While this is not the same as lore, it comes close to being a viable substitute: one could read their novels within Second Life

for pleasure but simultaneously with hope of better understanding the virtual world's genetic makeup.

It bears mentioning here that the lack of lore in Second Life was at one point addressed by Linden Lab, although without conclusive results. Although the developers generally focused on the emergent content that their virtual world and scripting tools made possible, they did question if the sense of a world that pre-existed its residents might encourage more responsible and aesthetically pleasing growth. Thus began the crafting of Heterocera Atoll, a new landmass based on real-world geography and containing archaeological relics of a vanished society. It was hoped within Linden Lab that the authentic feel of this landmass would cause residents to take their building choices more seriously and give them a set of common motifs with which to create (Malaby, 2009).[41] While this experiment was not a success, it shows that Second Life's developers recognized the disadvantages of running a diegetic world unified by nothing other than geographical continuity.

As for the second problem, the lack of adequate interfaces for reading need not be a permanent condition. The issue of scale between resident avatars and virtual textual artifacts can be overcome by accepting the dual-format approach but working to improve the aesthetic and functional qualities of the text window, not just the physical embodiment of the text. By making the text window also look and act like a book or similar object, the reading experience can be greatly enhanced. Another part of this problem has to do with overly conservative design of virtual textual artifacts. In a world

[41] Also see Heterocera Atoll (n.d.).

in which objects can be scripted to do nearly anything, there is no reason to be constrained by the physical qualities that paper-based formats have in real life. Books might be designed to produce animations that spring forth from their pages, or simply to bear page textures that shift subtly during the course of reading. The hippoBOOK platform is forward-thinking in this regard, with its self-turning pages: texts in virtual worlds may theoretically perform the same functions as real-world texts as well as thematically appropriate actions that take on a magical nature due to their impossibility in real life.

The lack of coherence of the diegetic worlds found in Second Life and other social virtual worlds adversely affects the potential for immersive reading experiences. In the absence of a fictional background and set goals for users, it becomes relevant to ask *why* a user would want to read a text in a virtual environment when such an activity is available via print sources or the Web. While the lack of a motivating diegetic world may be insurmountable due to the nature of social virtual worlds, such worlds – or rather their users – may be able to provide immersive reading experiences by means of creative technical innovations to reading interfaces. Social virtual worlds may eventually offer modes of reading that are impossible in the physical world.

# Chapter 5: Conclusion

*In Defense of Solitude*

Throughout this study, I have been concerned with how individuals read textual artifacts within the context of virtual environments: why do they begin to read, and what makes them finish reading? While motivations vary from one player to another, I have sought to find affordances in different texts that encouraged particular modes of reading: telic, paratelic, or varying degrees of both. My hypothesis – that the most immersive leisure reading experiences involve at least a slight telic component – allowed me to identify the role that virtual textual artifacts play in helping players to understand the diegetic worlds in which they act. The wealth of lengthy reading material in a number of role-playing and adventure video games suggests that this form of virtual environment is particularly conducive to reading, and I conclude that this results from players being situated in coherent and robust diegetic game worlds. Players seek to understand the surrounding world, not only in Certeau's sense of generating space or imbuing it with meaning, but also in order to become familiar with the culture(s) that they encounter and to pick up on relevant social cues. In-game texts act like travel guides for explorers venturing into unknown lands: they indicate where to go, what to say, and what to look for, whether this information is delivered explicitly or read between the lines. Even narratives that are "doubly fictional," i.e., presented as fiction within the context of a fictional world, can be approached as useful for the insight that they provide into the

cultures and history of the diegetic world: players open up hypodiegetic spaces in pursuit of a better understanding of the main diegetic space.

Much recent research has focused on the value of collaboration among large numbers of people to regulate knowledge and create new cultural artifacts, and my analysis confirms that innovative, high-quality content is indeed appearing in virtual environments of all three types. However, these materials – "mods" in the case of video games and MMOGs, purchasable user-created objects and scripts in social virtual worlds – are primarily publicized and traded outside of the diegetic worlds in which they are to be used.[42] The sphere of fandom or participatory culture (Jenkins 2006), locating primarily on the Web but spanning multiple media, acts as an outlet for emergent narratives and content whose creation cannot be accommodated within the virtual environments; it also disseminates content to be reinserted into diegetic worlds. The fact that synchronous collaboration between users is possible in MMOGs and social virtual worlds but not in traditional video games makes no difference in this case, because self-enclosed virtual environments are not sufficient platforms for the circulation of emergent content.

In fact, the ways in which MMOGs and social virtual worlds cater to multiple users hinders immersive reading experiences by damaging the coherence and self-contained nature of their diegetic worlds. Video game players read in order to understand

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[42] This is not always true of social virtual worlds such as Second Life, but as we have seen, the diegetic worlds of these are especially weakly defined, with porous borders. Creation and gift exchanges can take place in-world, but sales often happen on the Web (including when hyperlinks are provided in-world); Boellstorff (2008) notes that textures in Second Life are particularly prized because they usually have to be made outside the virtual world.

the game world, because they know that they possess agency to alter the world in accordance with their desires. MMOGs, in contrast, present players with fundamentally immutable worlds in which their actions fail to have predictable and lasting effects. Social virtual worlds do allow users to make permanent changes, but these diegetic worlds have porous and indefinitely expanding borders, with no unifying features except physics and contiguous geography. The solipsism of video games turns out to be a great advantage for maximizing the agency of players and their sense of investment in the game worlds. Modifiable video games allow players to import emergent content into their worlds without doing significant violence to the worlds' borders. A player who downloads a bookshelf-arranging mod for *Skyrim* aims not to unsettle but to enhance the reading experiences crafted by the game's developer.

Traditional video games feature a decidedly "top-down" model of content creation, in which each feature of the game is crafted by professionals working together in a studio. Second Life, along with the social virtual worlds that most closely resemble it, adopts an entirely different approach: the developer serves a loose regulatory role and provides updates to the world's mechanics, but content creation is the purview of users in general. Hopefully the preceding discussion of emergent content clarifies that this paper is not an argument in favor of top-down over bottom-up development, but of solitude over sociality. The concessions that developers make in order to make games fair and fun for all players (in MMOGs) or to give users maximum freedom of expression (in social virtual worlds) have the inadvertent effect of eroding the coherence of their diegetic worlds; no such concessions are necessary when the player is already alone.

Reading is an activity that takes place best in solitude, and maximum immersion calls for a diegetic world that is untouched by other players.

The inability of socially-oriented virtual environments to provide fully defined and self-contained diegetic worlds is, however, only a contingent feature resulting from technological limitations and developers' assumptions about users' desires. It is certainly possible to imagine a virtual world with clearly defined borders and laws, where users' actions impact the world in tangible and permanent fashion, and where sufficient complexity exists to allow users to take irrevocable actions without exhausting the possibilities for other users. In such a world, solitude would have no further advantage: the only solitude necessary would be the limited amount necessary to read and create without unwanted distractions.

*Applications*

Having established some general conclusions about reading in virtual environments, it is appropriate to ask how these can be applied to practical ends. My view is that a greater understanding of what shapes virtual reading experiences is useful for anyone with a vested interest in providing such experiences: i.e., software developers, librarians, and publishers. **Software developers** are increasingly aware of the fact that an effective virtual environment not only allows the user to follow a central path, but also provides opportunities for diversion from said path. Players of both *Skyrim* and *World of Warcraft* can enjoy relatively mindless activities such as fishing or harvesting herbs, which may support the central quest but primarily serve as breaks from it. Boellstorff (2008, p. 125) notes that many Second Life residents engage in routines that insulate

them from social relations: "There is a need for a theory of cybersociality that takes into account how some people enter virtual worlds to be left alone." Developers of video games and virtual worlds are advised to allow players opportunities for undirected, solitary activities, of which reading is a prime example. Bethesda Studios, maker of the *Elder Scrolls* series, already appears to be taking reading seriously.[43]

The virtual environments featuring well-defined diegetic worlds have generally been limited to the narrative genre of fantasy (and science fiction in its more fantastic form), but there is no particular need to be limited to creating entirely fictional worlds. A diegetic game world could easily represent the real world at a particular historical juncture: for instance, one could craft an accessible MMOG situated during the Crusades or the French Revolution. Part of the appeal of this approach would be that in-game texts could include content created for the game along with real-world classics of the appropriate time period, which would not degrade the coherence of the diegetic world by their inclusion.

A lesson for developers of virtual social worlds might be that worlds with set borders or a unifying theme are better for providing immersive experiences such as reading. As we have seen, Linden Lab belatedly tried to apply this concept by adding archaeological lore to the landmass of Heterocera Atoll (Malaby, 2009). One virtual world which was founded on a unifying theme is Twinity, which was initially envisioned as a mirror image of the real world; as the world has evolved, this mirroring has given

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[43] I owe to Matt Lease the insight that material falling outside the central narrative of video games is also attractive to developers because it is especially easy to create and integrate into the game structure, while reaping disproportionate benefits for "replayability."

way to the creation of fictional content (Twinity, n.d.). Although providing users with creative abilities is a laudable goal, they may have an increased incentive to apply their abilities responsibly if they imagine themselves as residing in a real world.

**Librarians** have spilled much ink on the potential of Second Life to host libraries,[44] but their primary efforts have been on establishing the architecture and the personnel necessary for such an endeavor. In many cases, the library space is used mostly as a portal to the real-world library's website, rather than as a depository for virtual books. As we will shortly address, the problem of textual artifacts in Second Life may be ameliorated by designing better reading interfaces, allowing libraries to actually appear as sites where books can be found and read. Envisioning the Second Life library as a self-sustaining entity that must be welcoming and informative in itself (rather than as a means of drawing traffic to a library website) is a crucial step in establishing popular and relevant libraries in social virtual worlds.

It is also recommended that librarians not ignore video games. While most MMOGs may be currently off-limits due to zealous developers with restrictive terms of service, librarians can issue mods for games such as *Skyrim* containing public-domain books for reading in-game. In the future, it may be possible to issue mods containing entire virtual libraries full of readable texts; such libraries could not be staffed, but their contents would be appealing to many players.

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[44] Savin-Baden *et al.*, 2010 provides a good overview of the literature on Second Life and education. Buckland and Godfrey 2010 gives insights into the process of establishing and staffing libraries in Second Life.

**Publishers** and authors (who might act in virtual environments as independent publishers) are confronted with a great deal of potential in Second Life, but they are also faced with the challenge of designing or acquiring more usable reading interfaces. Whether the solution lies in better virtual books with turnable pages or with pop-up reading interfaces that better simulate the feel of reading a codex, enhanced designs could revolutionize reading and book sales in-world. Since every small publisher will not want to design their own interface, there is also potential for interface designers to make lucrative deals selling book templates to aspiring publishers.

Publishers also stand to benefit by releasing texts that fit gracefully into the diegetic world(s) of the target platform. Penguin had the right idea by gravitating initially toward Neal Stephenson and William Gibson, whose work largely constituted the inspiration for the development of Second Life. And although it is not currently feasible under the terms of service of most MMOGs, there is a possible business model allowing for publishers to sell work in-game that does not violate the boundaries of the diegetic game world. *Halo* and *World of Warcraft*, for instance, feature a number of tie-in novels published in the real world by a major publishing company (Novels, n.d.). What if content that made sense within the game – i.e., to be read by the player's avatar and not simply by the player – could be sold in-game, either by a professional press or by individuals who in return signed their rights away to the game developer? Likewise, texts meant to be read in-game could be put on sale by the publisher to be downloaded as mods into such video games as the *Elder Scrolls* series. The market for texts only meant to be read in-game is obviously limited, but a hypothetical game such as the historical

MMOG outlined earlier could act as a platform for the sale of reissues of real-world classics.

*Future Research*

I have formulated the hypothesis, useful but unverifiable in this study, that leisure reading experiences which facilitate some degree of telic reading are especially immersive. This may also be true for certain types of readers but not all of them. If true, its applicability extends beyond the realm of virtual environments. It could also go some way toward explaining the popularity of certain genres of fiction, by means of which the reader is not only entertained by expects to learn something. Although they read primarily for enjoyment, the James Michener reader may expect to learn something about Hawaii in the process, or the Tom Clancy reader to emerge with a better understanding of submarine warfare. This principle could apply to such genres as mystery and romance as well: readers demand a good story but also relish the sense of learning about human psychology and personal relations.

Whether leisure reading works in this fashion is a question that may be taken up in the field of reader-response criticism, and even more so in psychology. The small subfield of psychology of reading could be enhanced by studying whether telic engagement renders ludic reading more enjoyable or easier to maintain. Of particular interest here is Michael Apter's belief (cited in Nell 1988, p. 177) that "telic and paratelic states are bi-stable, like a light switch, which will return to the 'on' or 'off' position from any intermediate position." Any study of how telic reading enters into ludic reading

would need to address whether the latter could possess a consistent telic undercurrent, or if it instead gave way briefly and frequently to telic reading.

Another trajectory for future research would be to take up everyday life activities other than reading and explore how they take place differently in different virtual environments, as well as differently between virtual environments and the real world. Given that virtual environments already allow users to perform a wide variety of day jobs, sustain a marriage, and perform leisure activities such as fishing and playing board games, this field of inquiry is already ripe for a number of future studies.

*Closing Remarks*

In this study, I have tried to call attention to an emerging aspect of virtual environments that has largely been passed over in academic literature: the capacity of these environments to serve as sites for reading experiences. In addition to defining this feature, which some software developers appear to be actively cultivating, I have endeavored to identify some strategies conducive to providing immersive reading experience. These include cultivating immediacy of the textual artifact in relation to a transparent virtual body, as well as allowing for user-created content and narratives to be imported into the diegetic world of the virtual environment. Most importantly, they include presenting users with texts that strongly relate to the diegetic world but carry their own aesthetic value, thereby affording both telic and paratelic modes of reading.

Reading is but one of a number of "leisure" activities, or virtual everyday life activities, available in virtual environments. I hope that my study will spark further thinking about the role of such activities as nested within – or providing a break from –

the exploration of a virtual environment. I also hope that this examination of reading will spark new thought about how video games and other virtual environments may be used in the service of literacy: not just literacy in the broad sense of learning skills, as celebrated by James Paul Gee (2007) – although certainly that as well – but literacy in its narrow sense of the ability to read and comprehend texts.

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